

REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-82 are presently active in this case; Claims 1-35 having been amended by way of the present amendment.

In the outstanding Office Action, restriction to the following inventions was required:

- I. Claims 1-35
- II. Claims 36-77
- III. Claim 78
- IV. Claim 79
- V. Claims 80-82

First, Applicants wish to thank Examiner Mondt for the March 14, 2003, telephone interview at which time Applicants explained the amendments and arguments substantially as indicated in this response. Specifically, applicants explained that Claims 1-35 of invention I have been amended to recite a semiconductor laser device consistent with Claims 36-77 of invention II. Therefore, Applicants explained, inventions I and II should be examined in the present application. While Examiner Mondt did not formally agree to this proposal, he indicated that it seemed to be a reasonable approach and that he would give full consideration to our amendment when filed in a formal response.

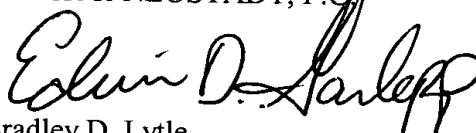
Therefore, in response to the restriction requirement dated February 11, 2003, Applicants provisionally elect group I, as amended herein, and group II directed to Claims 1-77 of the present application.

Accordingly, it is respectfully requested that a full examination on the merits of Claims 1-77 be conducted.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. An early and favorable action is therefore respectfully requested.

Respectfully submitted,

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IN THE CLAIMS

Please amend Claims 1-35 as shown in the attachment. Claims 1-35 in clean form are shown below:

1. (Amended) A semiconductor laser device comprising:

an active layer configured to radiate light; and

a diffraction grating,

wherein said semiconductor laser device is configured to emit a light beam having a plurality of longitudinal modes within a predetermined spectral width of an oscillation wavelength spectrum of the semiconductor laser device.
2. (Amended) The semiconductor laser device of Claim 1, further comprising:

a reflection coating positioned at a first end of said active layer and substantially perpendicular thereto; and

an antireflective coating positioned at a second end of said active layer opposing said first end and substantially perpendicular to said active layer,

wherein said reflection coating and said antireflective coating define a resonant cavity within said active region.
3. (Amended) The semiconductor laser device of Claim 2, wherein a length of said resonant cavity is at least 800 μ m.

4. (Amended) The semiconductor laser device of Claim 2, wherein a length of said resonant cavity is not greater than 3200 μ m.

5. (Amended) The semiconductor laser device of Claim 1, wherein said diffraction grating is formed substantially along an entire length of said active layer.

6. (Amended) The semiconductor laser device of Claim 5, wherein said diffraction grating comprises a plurality of grating elements having a constant pitch.

7. (Amended) The semiconductor laser device of Claim 5, wherein said diffraction grating comprises a chirped grating having a plurality of grating elements having fluctuating pitches.

8. (Amended) The semiconductor laser device of Claim 7, wherein said chirped grating is formed such that a fluctuation in the pitch of said plurality of grating elements is a random fluctuation.

9. (Amended) The semiconductor laser device of Claim 7, wherein said chirped grating is formed such that a fluctuation in the pitch of said plurality of grating elements is a periodic fluctuation.

10. (Amended) The semiconductor laser device of Claim 1, wherein said diffraction grating is a shortened diffraction grating formed along a portion of an entire length of said active layer.

11. (Amended) The semiconductor laser device of Claim 10, wherein said diffraction grating comprises a plurality of grating elements having a constant pitch.

12. (Amended) The semiconductor laser device of Claim 10, wherein said diffraction grating comprises a chirped grating having a plurality of grating elements having fluctuating pitches.

13. (Amended) The semiconductor laser device of Claim 12, wherein said chirped grating is formed such that a fluctuation in the pitch of said plurality of grating elements is a random fluctuation.

14. (Amended) The semiconductor laser device of Claim 12, wherein said chirped grating is formed such that a fluctuation in the pitch of said plurality of grating elements is a periodic fluctuation.

15. (Amended) The semiconductor laser device of Claim 10, further comprising:
a reflection coating positioned at a first end of said active layer and substantially perpendicular thereto; and

an antireflective coating positioned at a second end of said active layer opposing said first end and substantially perpendicular to said active layer,

wherein said reflection coating and said antireflective coating define a resonant cavity within said active region.

16. (Amended) The semiconductor laser device of Claim 15, wherein said shortened diffraction grating is positioned along a portion of the active layer in the vicinity of said antireflective coating.

17. (Amended) The semiconductor laser device of Claim 16, wherein said antireflective coating has an ultra-low reflectivity of approximately 0.1% to 2%.

18. (Amended) The semiconductor laser device of Claim 16, wherein said antireflective coating has an ultra-low reflectivity of approximately 0.1% or less.

19. (Amended) The semiconductor laser device of Claim 16, wherein said reflection coating has a high reflectivity of at least 80%.

20. (Amended) The semiconductor laser device of Claim 16, wherein said shortened diffraction grating has a relatively low reflectivity.

21. (Amended) The semiconductor laser device of Claim 16, wherein said shortened diffraction grating has a coupling coefficient $K \cdot L_g$ of approximately .3 or less.

22. (Amended) The semiconductor laser device of Claim 16, wherein said shortened diffraction grating has a coupling coefficient $K \cdot L_g$ of approximately .1 or less.

23. (Amended) The semiconductor laser device of Claim 15, wherein said shortened diffraction grating is positioned along a portion of the active layer in the vicinity of said reflection coating.

24. (Amended) The semiconductor laser device of Claim 23, wherein said antireflective coating has a low reflectivity of approximately 1% to 5%.

25. (Amended) The semiconductor laser device of Claim 23, wherein said reflection coating has an ultra-low reflectivity of approximately 0.1% to 2%.

26. (Amended) The semiconductor laser device of Claim 23, wherein said reflection coating has an ultra-low reflectivity of approximately 0.1% or less.

27. (Amended) The semiconductor laser device of Claim 23, wherein said shortened diffraction grating has a relatively high reflectivity.

28. (Amended) The semiconductor laser device of Claim 23, wherein said shortened diffraction grating has a coupling coefficient $K \cdot L_g$ of approximately 1 or more.

29. (Amended) The semiconductor laser device of Claim 23, wherein said shortened diffraction grating has a coupling coefficient $K \cdot L_g$ of approximately 3 or more.

30. (Amended) The semiconductor laser device of Claim 15, wherein said shortened diffraction grating comprises a first shortened diffraction grating positioned along a portion of the active layer in the vicinity of said antireflective coating, and a second shortened diffraction grating positioned along a portion of the active layer in the vicinity of said reflection coating.

31. The semiconductor laser device of Claim 30, wherein said antireflective coating and said reflection coating have an ultra-low reflectivity of approximately 0.1% to 2%.

32. (Amended) The semiconductor laser device of Claim 30, wherein said antireflective coating and said reflection coating have an ultra-low reflectivity of approximately 0.1% or less.

33. (Amended) The semiconductor laser device of Claim 30, wherein said first shortened diffraction grating comprises a first shortened diffraction grating which has a relatively low reflectivity and second shortened diffraction grating which has a relatively high reflectivity.

34. (Amended) The semiconductor laser device of Claim 30, wherein said first shortened diffraction grating comprises a first shortened diffraction grating having a coupling coefficient $K \cdot L_g$ of approximately .3 or less.

35. (Amended) The semiconductor laser device of Claim 30, wherein said first shortened diffraction grating comprises a first shortened diffraction grating having a coupling coefficient $K \cdot L_g$ of approximately 1 or more.